ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2015

Presented By

HI-DESERT WATER DISTRICT

Your Elected Board of Directors:
Bob Stadum–President 2012-2016
Dan Munsey–Vice President 2014-2018
Roger Mayes–Director 2014-2018
Sarann Graham–Director 2012-2016
Sheldon Hough–Director 2014-2018

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

PWS ID#: 3610073

Meeting the Challenge

Hi-Desert Water District is again proud to present our annual drinking water report for 2015, covering all drinking water testing performed between January 1 and December 31, 2015. Over the years, we have dedicated ourselves to producing drinking water that meets all State and Federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to your homes and businesses. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.

For more information about this report, or for any questions relating to your drinking water, please feel free to contact Steve Schwab, Water Quality Tech, at (760) 365-8333.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

Infrastructure Improvements

In 2015, the District Capital Replacement Program (CRP) replaced 54,363 feet of pipe, some as much as 50 years old. The pipes are being replaced with 6- to 12-inch PVC pipe, decreasing the amount of leaks and reducing issues related to taste, odor, and color in the distribution system's water.

The District is continuing with the Storage Tank maintenance program. Most of the tanks require a fair amount of repairs, including bringing the tanks up to code with a caged ladder system. A majority of tanks require some sandblasting inside and out, recoating of the inside, and a fresh coat of paint outside.

Community Participation

You are invited to attend Hi-Desert Water District's Board of Directors meetings, normally scheduled on the 1st and 3rd Wednesdays of each month beginning at 6 p.m. Meetings are held at the District's administration office at 55439 29 Palms Hwy. Information on regular meetings is available online at www.hdwd.com or by calling the District at (760) 228-6267.

Substances That Could Be in Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

Contaminants that may be present in source water include: Microbial Contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; Inorganic Contaminants, such as salts and metals, that can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; Pesticides and Herbicides, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; Organic Chemical Contaminants, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production and that can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems; Radioactive Contaminants, that can be naturally occurring or can be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Source Water Assessment

The Source Water Assessment Plan (SWAP) is available at Hi-Desert Water District. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source waters. It also includes an inventory of potential sources of contamination within the delineated area, and a determination of the basins' susceptibility to contamination by the identified potential sources.

Septic systems are still the major contributor to the potential contaminants within the District aquifer. Septage can infiltrate the groundwater supply, causing nitrate contamination in excess of Maximum Contaminant Levels (MCLs). Nitrates in excess of the MCL can cause a condition known as Methemoglobinemia, also called Blue Baby Syndrome. The District should be breaking ground in 2016 - 2017 to address this issue by moving forward with the construction of the planned Waste Water Treatment and Water Reclamation Facility that will reduce the number of septic tanks to help remove this threat to the aquifer.

Spurts of Air

As leaks are fixed and new main lines are added, air can become trapped within the distribution systems pipes. As the trapped air reaches your tap, the expelling air can cause sputtering or a loud noise as it escapes. This is normal and should resolve itself within a few minutes. Another air issue from the well itself results in the water coming out of the tap appearing milky or white in color. This water will clear up if allowed to sit on the counter for a few minutes. If your water does not clear up in a short amount of time, please contact the District.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. (If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.) If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/lead.

What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection.

Hi-Desert Water District has a Cross-Connection program that addresses the installation and annual testing of over 400 backflow units that are installed to date within the district's boundary. The program is ongoing, including an annual survey of the system to identify any new or changed connections that need to be addressed. These units range from 3/4" to 6" depending on the service lines. This picture is of a 2" Reduced Pressure Principle Assembly (RP).

For more information on backflow prevention, contact the Safe Drinking Water Hotline at (800) 426-4791.

Where Does My Water Come From?

Hi-Desert Water District (HDWD) relies solely on groundwater extracted from the Warren Basin and the Ames Basin. To offset the basins' overdraft, the District has been replenishing the groundwater by supplementing it with imported State water from the State Water Project (SWP), starting back in 1995. The District extracted approximately 2,837.96 acre-ft/yr with a daily average demand of 7.78 acre-ft/yr from the two aquifers in 2015. (1 acre foot = 325,851 gallons). We were able to recharge approximately 2,352.76 acre-ft/yr into the Warren Basin from the State Water Project in 2015, up from the drought-related shortages of the State water in 2014.

The Hi-Desert Water District distribution system covers a 57-square-mile area with over 300 miles of distribution piping and is served by 12 active groundwater wells totaling 6,425 gallons per minute. The District has 16 water storage reservoirs with a total storage capacity of 13.34 million gallons for future demands and fire fighting coverage, and 18 pressure zones feeding the system. HDWD maintains approximately 10,500 active service connections and serves approximately 24,520 residents in the Town of Yucca Valley and unincorporated areas of San Bernardino County known as the Mesa.

Water Conservation

Drought Update

In May 2016, the Governor of California declared an executive order, "Making Water Conservation a Way of Life." The proclamation comes after a series of adopted mandatory regulations to help Californians reduce water use by 20%. The order goes beyond temporary emergency drought measures and adopts permanent regulations for water providers and consumers to use water more wisely in preparation for additional periods of limited water supply. This way of life will help prepare us for ongoing drought conditions and future impacts from climate change.

Mandatory Water Use Restrictions

Together, we can build a sustainable future by looking for innovative ways to use less water and by continuing to comply with mandatory water use restrictions. For a full list of water-use restrictions and for additional tips to save water, visit www.HDWDConserves.com/water-use-restrictions.

Rebate Programs

For a list of available rebate programs for and eligible requirements, visit www.SaveOurWaterRebates.com.

Treatment Train Description

The District has a few wells that extract water from the deeper portions of our aquifer and can exceed the State's maximum contaminant level (MCL) for arsenic and nitrate. Water from these wells may require treatment before it moves into the distribution system for consumption. The District currently treats one active well, Well 16 E, for arsenic and nitrates by utilizing an approved treatment technique known as blending. In this process, the well water with the high concentrations of arsenic and nitrate is blended with water from two other wells with lower concentrations. The water is then pumped into a blending tank, thus lowering the overall levels before pumping it into the system and to our customers' taps. The District monitors the delivered water weekly and reports the results to the State Water Resources Control Board (SWRCB).

Sampling Results

In 2015, Hi-Desert Water District took hundreds of water samples throughout the District to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The State requires the District to monitor for particular substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

In 2014 we participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water. This information assists in the determination of whether the EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2015	10	0.004	0.92	ND–2.8	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	2015	1	2	0.0075	ND–0.034	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chlorine[1] (ppm)	2015	[4.0 (as Cl2)]	[4 (as Cl2)]	0.60	0.0 – 1.33	No	Drinking water disinfectant added for treatment
Chromium (ppb)	2015	50	(100)	1.43	ND–5.8	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (ppm)	2015	2.0	1	0.32	0.2–0.4	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2015	15	(0)	5.27	1.5–11.02	No	Erosion of natural deposits
Hexavalent Chromium[2] (ppb)	2014	10	0.02	1.48	ND–4.7	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Nitrate [as nitrogen] (ppm)	2015	10	10	3.0	1.0–8.5	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2015	LRAA=80	NA	LRAA 11	3–11	No	By-product of drinking water disinfection
Total Coliform Bacteria [Total Coliform Rule] (% positive samples)	2015	More than 5.0% of monthly samples are positive	(0)	2.4	NA	No	Naturally present in the environment
Uranium (pCi/L)	2015	20	0.43	9.23	7.3–11.16	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2014	1.3	0.3	0.16	0/35	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	2014	15	0.2	0	0/35	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2015	500	NS	39.2	8.3–64	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2015	15	NS	0.01	ND–3	No	Naturally occurring organic materials
Iron (ppb)	2015	300	NS	11.1	ND–100	No	Leaching from natural deposits; industrial wastes
Specific Conductance (µS/cm)	2015	1,600	NS	395.5	260–480	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2015	500	NS	28.2	12–40	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2015	1,000	NS	238.07	120–340	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2015	5	NS	0.13	ND–1.7	No	Soil runoff

UNREGULATED CONTAMINANT MONITORING RULE PART 3 (UCMR3)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
1,4-Dioxane[3] (ppb)	2014	0.014	ND–0.19	Has primarily been used as a stabilizer or solvent in manufacturing
Chlorate[3] (ppb)	2014	33.19	ND–100	Agriculture defoliant or desiccant; disinfection by-product
Molybdenum[3] (ppb)	2014	4.6	1.2–24	Naturally occurring
Strontium[3] (ppb)	2014	280.47	150–360	Naturally occurring
Vanadium[3] (ppb)	2014	3.62	1.5–5.6	Naturally occurring

OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bicarbonate (ppm)	2015	120	94–210	Naturally occurring
Calcium (ppm)	2015	35.6	19–46	Naturally occurring
Magnesium (ppm)	2015	5.86	1.4–9.6	Naturally occurring
pH (Units)	2015	7.5	6.4–8.2	Naturally occurring
Sodium (ppm)	2015	35.7	25–55	Naturally occurring salt content in the water
Total Alkalinity (ppm)	2015	96.3	77–170	Naturally occurring
Total Hardness (ppm)	2015	112.6	58–160	Naturally occurring

[1] HDWD generates our own sodium hypochlorite at a 0.8% solution for our well head dosing of approximately 1.0 ppm. Note that household sodium hypochlorite solution is at 5.25%.
[2] In July 2014, California set the MCL for hexavalent chromium at 10 ug/l.
[3] UCMR3 sampling.

Definitions

AL (Regulatory Action Level): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as LRAAs.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. EPA.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

PDWS (Primary Drinking Water Standard): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

PHG (Public Health Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California EPA.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).